REMARKS

In the Office Action dated July 18, 2007, claims 12-17, 25, 26, 28, 32, and 33 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. 6,212,606 (Dimitroff) in view of U.S. Patent No. 6,779,078 (Murotani); and claims 18, 21, 22, 24, 27, and 29-31 were rejected under 35 U.S.C. § 103(a) as unpatentable over Dimitroff, Murotani, and U.S. Patent Application Publication No. 2004/0032430 (Yung).


REJECTION OVER DIMITROFF & MUROTANI

It is respectfully submitted that the obviousness rejection of claim 25 over Dimitroff and Murotani is defective. To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

The obviousness rejection is defective for at least two reasons: (1) the Office Action has mis-applied Dimitroff onto the elements of claim 25; and (2) Murotani does not disclose or hint at the subject matter asserted by the Office Action to be present in Murotani.

As disclosing the at least one control element clause of claim 25, the Office Action stated that the control element is part of the host 106 of Dimitroff. 1/11/2008 Office Action at 2. This mapping of an element of the claim to Dimitroff is clearly in error, as the at least one control element is part of the interface manager of claim 25. Claim 25 specifically recites that the host is "**separate** from the interface manager" of which the at least one control element is part of. Moreover, note that the interface manager of claim 25 is for use in a storage system, and that the interface manager has at least a first port to communicate with controllers operatively associated with storage system devices of the storage system, and at least one network port to communicate with a host that is external to the storage system. Since the at least one control element of claim 25 is part of the interface manager that is **separate** from a host external to a storage system, the statement in the Office Action that the at least one control element of claim 25 can be part of the

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host 106 of Dimitroff constitutes clear error. In view of this mis-application of Dimitroff to a claim element, the obviousness rejection is defective.

Moreover, the Office Action conceded that Dimitroff does not disclose "use of an interface manager that receives device information from a plurality of controllers and generates a logical map of the storage system." *Id.* at 3. Instead, the Office Action cited Murotani as disclosing this feature of claim 25. Specifically, the Office Action pointed to external manager 5 depicted in Fig. 1 of Murotani. Note that claim 25 recites that the interface manager is for use in a storage system. The external manager 5 is not part of the storage system that includes disk array controllers 2-4 and various logical volumes 8-16. Even more fundamentally, it is respectfully submitted that the external manager 5 of Murotani does not receive device information relating to the storage system devices from the controllers, and generates at least one logical map based on the received device information, where the at least one logical map is assigned to a host to allow the host to access one or more of the storage system devices. The external manager 5 of Murotani collects access data to determine how data migration between different logical volumes is to proceed. However, deciding on migration of data between different logical volumes, as taught by Murotani, is different from receiving device information relating to the storage system devices from the controllers, generating at least one logical map based on the received device information, and assigning the at least one logical map to the host to access one or more of the storage system devices.

In view of the foregoing, it is clear that even if Dimitroff and Murotani could be hypothetically combined, the hypothetical combination would not have led to the claimed subject matter.

Moreover, the Office Action made the following erroneous conclusary statement: "It would have been obvious to one of ordinary skill that the external manager perform the action as a logical map by enabling an disabling user access of system devices by retaining corresponding information about applications 17 to 19 on host unit 1 and on disk array controllers 2 to 4 which control the logical volumes." *Id.* at 3. This conclusary statement finds no support in the teachings of Murotani. As noted above, Murotani indicates that access information is to be monitored to determine data migration. The statement in the Office Action that it would have

been obvious for the external manager to generate the logical map of claim 25 is based purely on speculation, without any rationale or evidence that would support this statement.

Therefore, it is clear that no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of Dimitroff and Murotani. Thus, the obviousness rejection of claim 25 is clearly erroneous.

Independent claim 12 was also rejected as being obvious over Dimitroff and Murotani. It is respectfully submitted that claim 12 is allowable over Dimitroff and Murotani for similar reasons as claim 25.

Dependent claims of 12 and 25 are further allowable for at least the same reasons as corresponding independent claims.

Moreover, claim 13, which depends from claim 12, further recites "aggregating **configuration** information from each of the storage system devices for the logical map." As noted by the Office Action, the external manager 5 of Murotani gathers "accessing state, which is the number of read/write commands for each application of the host unit 1 during a predetermined period ...." 1/11/2008 Office Action at 3. However, gathering access data, as taught by Murotani, is completely different from aggregating **configuration** information from each of the storage system devices. Therefore, claim 13 is further allowable since the hypothetical combination of Dimitroff and Murotani fails to disclose or hint at aggregating configuration information from each of the storage system devices for the logical map.

Claim 26 depends from claim 25, and is therefore allowable for at least the same reasons as claim 25. Moreover, claim 26 further recites that the received device information includes at least one of numbers and types of storage system devices connected to the controllers, and capacities of storage system devices in the storage system. As noted above, Murotani teaches the collection of access data, which is **not** "at least one of numbers and types of storage system devices connected to the controllers, and capacities of storage system devices in the storage system." This is a further reason that claim 26 is allowable over Dimitroff and Murotani.

## REJECTION OVER DIMITROFF, MUROTANI, AND YUNG

Independent claim 21 was rejected as being obvious over Dimitroff, Murotani, and Yung.

In view of the defective combination of Dimitroff and Murotani, it is respectfully submitted that the obviousness rejection based on Dimitroff, Murotani, and Yung is also defective. Moreover, it is respectfully submitted that no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of Dimitroff, Murotani, and Yung. *See, KSR,* 127 S.Ct. at 1741. While Dimitroff is related to defining standardized share levels for different storage units, and Murotani is directed to monitoring access data to determine data migration, Yung is related to providing a user interface "for relatively large biological laboratories that have many instruments of different types." Yung, Abstract. Since the teachings of Dimitroff, Murotani, and Yung are directed to very different applications, it is respectfully submitted that a person of ordinary skill in the art would not have been prompted to combine the teachings of Dimitroff, Murotani, and Yung to achieve the claimed invention. The obviousness rejection is therefore further defective for this additional reason.

Moreover, as discussed above, collecting access data as taught by Murotani is not the same as "aggregating configuration information" as recited in claim 21. More specifically, claim 21 recites that the interface manager is to generate a logical map of the automated storage system based on aggregating **configuration** information for the data access drives and transfer robotics. Therefore, even if Dimitroff, Murotani, and Yung could be hypothetically combined, the hypothetical combination would not have led to the claimed subject matter.

In view of the foregoing, the obviousness rejection is clearly defective.

Dependent claims of claim 21 are allowable for at least the same reasons as claim 21. Moreover, in view of the defective obviousness rejections of base claims, it is respectfully submitted that the obviousness rejections of dependent claims have also been overcome.

In view of the allowability of base claims, it is respectfully submitted that newly added dependent claims 35-37 are also allowable.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 08-2025 (200315416-1).

Respectfully submitted,

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